REMARKS

Reconsideration of the above identified application in view of the preceding amendments and following remarks is respectfully requested.

Claims 1-43 are pending in this application. By this Amendment, Applicants amended Claims 1, 5, 7, 31, 33, 35, 37 and 39. New Claim 43 had been added. The claim amendments were made to more precisely define the invention in accordance with 35 U.S.C. § 112, paragraph 2. These amendments have not been necessitated by the need to distinguish the present invention from any prior art. It is respectfully submitted that no new matter has been introduced by these amendments, as support therefor is found throughout the specification and drawings.

In the Office Action, Claims 1-4, 7, 23, 31, 33, 35 and 37-39 were rejected under 35 U.S.C. § 112, second paragraphs, as being indefinite due to minor informalities. Claims 1, 7, 31, 33, 37 and 39 have been amended to correct these informalities. New Claim 43, based upon one of the original Claims numbered as "23", has been added for clarification. In view of these clarifying amendments, withdrawal of the rejection is respectfully requested.

In the Office Action, the Examiner rejected Claim 1-5 and 8-42 under the judicially created doctrine of double patenting. Applicant's representative respectfully requests that the rejection be held in abeyance as a suitable a terminal disclaimer can be filed upon receipt of a Notice of Allowance.

In the Office Action, Claims 1-4 were rejected under 35 U.S.C. § 103 (a) over U.S. Patent No. 5,826,081 to Zolnowsky in view of Hanrahan (Google groups).

Zolnowsky shows a thread dispatcher for a multiprocessor system (MP). For example, referring to Figure 4, each processor 1, 2, ... N has a separate, respective dispatch queue 401,

402, 403. Each dispatch queue has its own scheduling lock so that any processor attempting to dispatch a thread from a queue needs to acquire a lock for that queue before taking the thread off the queue. Zolnowsky viewed this as an improvement over the prior art where previously a single schedule lock was used to lock the entire single dispatch queue associated with all processors (see col. 6, lines 28-42).

Hanrahan describes the prior art system described in Zolnowsky wherein a single scheduler is used in an MP. The single scheduler database of Hanrahan can be locked to cause exactly the lock contention that Zolnowsky tries to avoid.

It is respectfully submitted that one skilled in the art to which the subject invention appertains would not have been motivated to combine Zolnowsky with Hanrahan as suggested by the Examiner. Zolnowsky teaches a plurality of local dispatch queues for an MP to avoid lock contention. To combine the substance of Hanrahan would defeat the intended purpose of Zolnowsky because the lock contention that Zolnowsky attempts to avoid would be reintroduced into the MP as taught by Hanrahan. Thus, neither reference provides a motivation, teaching or suggestion to combine these references in the manner suggested by the Examiner. Accordingly, applicant's representative asserts that Claims 1-4 are patentable over the combination of Zolnowsky and Hanrahan.

For the sake of argument, even if the references of Zolnowsky and Hanrahan were combined as suggested by the Examiner, the claimed invention would not be obtained. If the two disclosures were combined, we would obtain a single scheduler controlling a plurality of local dispatch queues, where lock contention would undesirably occur at the scheduler and a separate global lock would still be maintained on the database.

With regard to Claim 1, there is nothing in either Zolnowsky and Hanrahan which

discloses or suggests, alone or in part, in whole or in combination, a parallel dispatching and wait signaling method for protecting data items of a dispatcher database of an operating system including the steps of creating N local locks, each N local lock for a subset of the dispatcher database, where N > 2, acquiring one of the N local locks to perform one of dispatching or wait signaling operation, thereby locking a given subset of the dispatcher database, limiting access of the data items of the given subset to the one of dispatching or wait signaling operation to be performed for that given subset and concurrently maintaining access to data items of unlocked subsets of the dispatcher database so that the operating system maintains a substantially operational state. Thus, a single dispatcher database has defined subsets, each subset being capable of being locked while others are not. Therefore, Claim 1 and each of the claims depending therefrom are not rendered obvious by the combination of references cited by the Examiner, and withdrawal of the rejection under 35 U.S.C. §103 (a) is respectfully requested.

In the Office Action, Claims 5-42 were rejected under 35 U.S.C. § 103 (a) over Zolnowsky in view of Hanrahan, and further in view of U.S. Patent No. 6,502,103 to Frey et al.

As noted above, Zolnowsky shows a plurality of local dispatch queues for an MP. Zolnowsky also proposes a separate global dispatch queue for higher priority threads in addition to each processor's own dispatch queues. In an effort to make correct decisions, Zolnowsky shows a select and verify scheme. Hanrahan describes a lockable single scheduler used in an MP.

Frey et al. show a method for providing data objects to support multiple resources. Each managed object lives in a home, which is defined by a name and has a defined set of

properties. The objects are retrievable. Upon retrieval, the objects can be updated.

As noted above, not only would one skilled in the art would not combine Zolnowsky with Hanrahan, such an artisan would not further combine Frey et al. as suggested by the Examiner. Frey et al. merely teaches retrieving and updating objects in an object oriented programming environment. None of the references provide a motivation, teaching or suggestion to combine such a references as Frey et al. in the manner suggested by the Examiner. Accordingly, applicant's representative asserts that Claims 5-43 are patentable over the combination of Zolnowsky and Hanrahan.

For the sake of argument, even if the cited references were combined as suggested by the Examiner, the claimed invention would not be obtained.

There is nothing in the cited combination which discloses or suggests, alone or in part, in whole or in combination, the methods as recited in Claims 15, 20, 25 and 40. In particular, each claim substantially recites, *inter alia*, defining one or more dispatch groups, each dispatch group including dispatchable objects, made up of any of threads, resources or events, defining one or more local locks, one for each dispatch group, acquiring one of the one or more local locks, thereby locking a portion of the dispatcher database corresponding to the dispatch group. Thus, a single dispatcher database has defined subsets or groups, each group being capable of being locked while others are not. Therefore, Claims 15, 20, 25 and 40, and each of the claims depending therefrom, are not rendered obvious by the combination of references cited by the Examiner, and withdrawal of the rejection under 35 U.S.C. §103 (a) is respectfully requested.

Turning to Claims 5, 8 and 20, there is nothing in the cited combination which

discloses or suggests, alone or in part, in whole or in combination, the limitations as recited in

Claims 5, 8 and 20. In particular, each claim recites a limitations similar to or

including, *inter alia*, determining a methodology to form one or more dispatch groups,

creating N local locks, one for each dispatch group, evaluating the operating system after

said modifying the locking requirements so as to determine if the overall performance of

the operating system is acceptable, and optimizing the locking requirements. Thus, the

performance of the operating system is optimized by continually forming dispatch

groups until optimization occurs. Therefore, Claims 5, 8, 20 and each of the claims

depending therefrom are not rendered obvious by the combination of references cited by

the Examiner, and withdrawal of the rejection under 35 U.S.C. §103 (a) is respectfully

requested.

Turning to Claims 7 and 30, there is nothing in the cited combination which discloses

or suggests, alone or in part, in whole or in combination, the limitations as recited in Claims 7

and 30. In particular, each claim recites a limitations similar to or including, *inter alia*,

defining a plurality of dispatch groups, each dispatch group being made up of any of

threads, resources and events that frequently interact with each other, defining one or more

local locks that protect items making up each dispatch group, and acquiring one of the one

or more local locks for any of the threads, resources and events of a given dispatch group

that are touched by a code path of one or more code paths comprising an operating system.

Thus, a dispatcher database includes a plurality of dispatch groups, each group having a

local lock associated therewith. Therefore, Claims 7, 30 and each of the claims

depending therefrom are not rendered obvious by the combination of references cited by

the Examiner, and withdrawal of the rejection under 35 U.S.C. §103 (a) is respectfully

requested.

Any additional fees or overpayments due as a result of filing the present paper may

be applied to Deposit Account No. 04-1105. It is respectfully submitted that all of the claims

now remaining in this application, namely Claims 1-43, are in condition for allowance, and

such action is earnestly solicited.

If after reviewing this amendment, the Examiner believes that a telephone

interview would facilitate the resolution of any remaining matters the undersigned

attorney may be contacted at the number set forth herein below.

Respectfully submitted,

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